MODIS Technical Team Meeting
Thursday, November 18, 20004
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Greg Leptoukh, Dorothy Hall, Robert Wolfe, Chris Justice, Eric Vermote, Ed Masuaoka, Bill Barnes, Bob Barnes, Jack Xiong, Steve Kempler, and Barbara Conboy with Holli Riebeek taking the minutes.

1.0 Upcoming Events

No upcoming events.

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reports that he is actively starting to think about the next Science Team meeting including when it will be and how it should be structured to be of most benefit to the Science Team members. After he has some more extensive discussion with NASA Hq as to what general programmatic guidance they wish to provide, he is planning to send out a note asking for input and suggestions from the Science Team. Justice asked that the programmatic drivers be clear. Hall noted that people liked long breaks for poster sessions and discussion at the recent Snow and Ice User Workshop and suggested a similar format for the MODIS Science Team meeting.

2.2 Instrument Status

2.2.1 Terra MODIS

Xiong reports that Terra MODIS is functioning normally. The Look-up Tables for collection 5 are currently being tested at SDST.

Salomonson stated that he has indicated that he has expressed in behalf of MODIS that the solid state recorder on Terra should be recycled to improve performance, but wanted to make one last check with those at the this meeting. No one had any objections to the recycling procedure taking place; i.e., all were in favor.

2.2.2 Aqua MODIS

Xiong reported that the instrument is functioning normally. They (MCST) are working on the LUTs development and tests.

Salomonson asked about the status of the ephemeris problem on Aqua. Wolfe responded that he knows the predictive ephemeris used by direct broadcast users is out of specifications because of solar activity, but he hasn't heard of a problem with the definitive ephemeris used in the production of the science products at the DAACs and MODAPS. Wolfe agreed to check on the status of the problem. [Wolfe later confirmed that the definitive ephemeris was out of specifications (20 m accuracy) for one day (DOY314, Nov. 9), when the error reached 30 m. He does not expect that this will have a significant impact on the geolocation accuracy, but he will check.]

2.2.3 General Instrument Discussion

Wolfe reported on a teleconference held Tuesday afternoon about the solar diffuser characteristics on the NPP/NPOESS VIIRS. Some analyses/modeling apparently show some Earthshine effects up to 3 percent however there are a lot of caveats and uncertainties to be resolved. Wolfe reported that VIIRS is also concerned about polarization that occurs at glancing angles. Like glare on a sunny day, you can get light that is highly polarized on solar diffuser. The VIIRS modeling is more extensive than the MODIS modeling because it looks at the non-diffuse components as well as the diffuse components. Xiong says that he has only seen plus or minus 0.2-3 percent variation in MODIS (excluding bands with electronic crosstalk). Obviously, more work needs to be done. Wolfe reports that he turned his MODIS solar diffuser analysis and Earth shine modeling software and tools over to Fred Patt in the OCDPS/ocean group to review.

Bob Barnes reported on MODIS ocean color calibration validation. At a meeting last week, Paula Bontempi (HQ) requested that he look at observational uncertainties for various applications including those associated with open water and coastal zones studies. Bill Barnes and Jack Xiong have a paper on instrumental uncertainties of MODIS, and Bob Barnes sent Dr. Jim Mueller from San Diego State University a copy of that as a starting point. Bob Barnes is looking at very small instrument anomalies with emphasis on the physical causes for differences between the detectors. He doesn't want to empirically remove the differences from the data, but would rather look for a physical basis for differences.

2.3 DAAC

Steve Kempler reports that things have been flowing well through the DAAC. There is no backlog and only a few hours of downtime this week. Issues obtaining NICE data have been resolved.

Kempler was involved in a meeting with NOAA on October 18 to discuss the long-term archive of MODIS data. The plan is to send Level 0 data to the NOAA archive first to test the connectivity, and then send Level 1B data. For now, they are just testing the ability and reliability of the networks. When they send the Level 1B data, they will test the acquisition, archival, and access at NOAA to make sure they are ready for routine use. Kempler reports that higher level products will be transferred later. The long term archive will start functioning a few years after the end of the EOS mission. Until that period, at least, the DAACs will continue to serve users. The DAACs collect 70 gigabytes of Level 0 data per day that will have to be transferred. There will be over 200 Terabytes of Level 0 data over a nine year period. It will take approximately three years to transfer the Level 0 data, however much of this data could be transferred during Level 1 reprocessing at the DAAC.

Justice says that the EDC DAAC has a different advisory panel for the long-term archive activity that is not yet firmly linked into MODIS community. Some dialog between the advisory panel and the MODIS community may be needed in the future to determine what should be saved in the archive. It's not clear that the USGS intends to support the MODIS data archiving indefinitely.

Masuoka reports that NASA Headquarters is thinking about long term records. A long term archive might also be established by moving equipment to another location designated as a long-term archive. A question to ask about a long-term archive is what level of service will be provided. Kempler acknowledged that many possibilities have been discussed for several years.

Kempler reports that they will move beyond testing just the transfer of data to testing the data integrity in the next year and a half. They will be pulling the data back from Suitland (NOAA) to test the data integrity.

2.4 SDST

Masuoka reports that the land science test will be pushed to next week waiting for the Level 5 snow product. He plans on collecting public comments during the third atmosphere test. He wants to give the community an opportunity to weigh in early during the science tests for collection 5. A note requesting input will be send to the community by mid-December. He does not have the final list of people that will receive the note. Bill Ridgway and the atmosphere groups are looking at lists to determine who should be included in the list of contacts. Vermote suggests that people be given a longer period to comment because of the holidays.

Masuoka reports that he has finished all requirements for the ADDS system. They have new discs, going to 40 Terabytes to hold atmosphere data. The system will allow users to subset 20,000 files in three hours, cutting out latitude and longitude boxes. After the system is finished, they will start on land.

Wolfe reports that they have finished the long-term trend analysis for Terra MODIS geolocation performance. Based on this they generated a new lookup table for Collection 5 that they think is going to improve geolocation accuracy in the southern hemisphere because of the within orbit temperature fitting that they have done. They will be working on long-term trends for MODIS/Aqua Collection 5.

Justice reports that the MODIS land community is getting ready for collection 5. The land group suggests waiting until summer for the next science team meeting because there will be more to discuss once testing is underway. A land cover science team meeting will be held in January.

2.5 Atmospheres

No report given.

2.6 Cryosphere

Hall reported on the two day Snow and Ice User Workshop held on November 16 and 17 which was sponsored jointly by Goddard and NSIDC and co-chaired by Hall and Marilyn Kaminski of NSIDC. Wolfe, Hall and George Riggs spoke, and Salomonson served on a panel. People from the Goddard DAAC gave demonstrations, and other demonstrations were presented by NSIDC. Several others from Goddard also gave presentations. Three different panels provided good discussions on data fusion, CDRs, and using sea ice products in models. Attendance was good--114 registered, and about 100 showed up. Raytheon did a nice job hosting the workshop.

Salomonson added that there is some enthusiasm for defining errors in products as well as better defining requirements that come out of models. Hall plans on writing up a workshop report along with the organizing committee. She observed that it was nice that the workshop was EOS-wide, not just a MODIS workshop. MODIS was prominently discussed.

3.0 Action Items

3.1 New Action Items

3.1.1 Robert Wolfe will check on the status of the ephemiris problem on Aqua.
Status: Open

3.1.2 Dorothy Hall will write a report on the recent Snow and Ice User Workshop.
Status: Open

3.2 Old Action Items

No outstanding action items.